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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------------|
| 10/587,965 | 07/31/2006 | Wolfgang Brox | 853663.440USPC | 6645 |
| 38106 7590 12/04/2009 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVENUE, SUITE 5400 SEATTLE, WA 98104-7092 | | | EXAMINER KING, SIMON | |
| | | | ART UNIT 2614 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/587,965 | Applicant(s) BROX, WOLFGANG | |
| | Examiner SIMON KING | Art Unit 2614 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/31/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "substantially" in claim 3 is a relative term which renders the claim indefinite.

The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Appropriate corrective action is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-9 rejected under 35 U.S.C. 102(e) as being anticipated by He et al. (US 2004/0001450 A1).

As for claim 1, He discloses an echo canceling method (abstract and (claim-1: method)) comprising the steps: a) receiving a first signal and a second signal, said second signal comprising an echo of the first signal (Fig.2 and [0027]: Adder 34 receives Sin 39 and echo estimation signal 48; [0046]: echo estimation signal 48 is a reflected echo) b) generating an

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echo replica signal by filtering the first signal with a finite impulse response filter, said finite impulse filter using a filter coefficient vector for generating the echo replica signal (Fig.2 and [0046-0047]: Signal 46), c) generating an echo cancelled signal by subtracting the echo replica signal from the second signal ([0043]: Adaptive filter 28 within echo canceller 20 attempts to "imitate" the hybrid response of Sin 37 and subtracts it out via adder 34), d) determining a measure of interference within the second signal (Fig.2 and [0046]: echo estimation signal 48), e) determining a step vector depending on said measure of interference, wherein increasing the measure of interference continuously reduces a size of the step vector ([0047]), and f) updating the filter coefficient vector by the step vector ([0047]).

As for claim 2, He discloses echo canceling method, wherein the step vector is determined by: generating a first step vector adapted to improve the filter coefficient vector, if the second signal is not affected by interference, generating a second step vector depending on said measure of interference, and selecting the step vector from the first and second step vector and, wherein the step vector having the smallest size is chosen ([0046-0047]).

As for claim 3, He discloses echo canceling method, wherein the second step vector substantially corresponds to the first step vector in the absence of interference on the second signal ([0046-0047]).

As for claim 4, He discloses echo canceling method, wherein the second step vector continually decreases, if the measure of interference increases, such that the size of the second step vector becomes smaller than the size of the first step vector ([0157-0159]).

As for claim 5, He discloses echo canceling method, wherein the measure of interference is determined using a level of the echo cancelled signal ([0062]).

As for claim 6, He discloses echo canceling method, wherein the step vector is determined depending on a total echo return loss ([0082]).

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As for claim 7, He discloses echo canceling method, comprising the steps: detecting whether a double talk situation is present or not, and determining the total echo return loss differently depending on whether the double talk situation is present or not ([0082-0083]).

As for claim 8, He discloses echo canceling method wherein the measure of interference is determined using a weighted level of the echo cancelled signal, said weighted level of the echo cancelled signal consisting of the level of the echo cancelled signal multiplied by the total echo return loss ([0083-0084]).

As for claim 9, He discloses echo canceling device comprising: a finite impulse response filter adapted to receive a first signal and to output an echo replica signal, said finite impulse response filter using a filter coefficient vector for generating the echo replica signal, a subtraction circuit for subtracting the echo replica signal from a second signal comprising an echo of the first signal, a coefficient update circuit for iteratively updating the filter coefficient vector by a step vector, a means for determining a measure of interference within the second signal, a means for determining the step vector depending on the measure of interference, wherein increasing the measure of interference continuously reduces a size of the step vector (see rejection for claim 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIMON KING whose telephone number is (571)270-1950. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, FAN TSANG can be reached on (571)272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

01 December, 2009

/SIMON KING/
Examiner, Art Unit 2614

/Fan Tsang/
Supervisory Patent Examiner, Art Unit 2614